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IN THE CLAIMS:

Claim 15 has been cancelled herein. Claims 1, 6, 7, 11-14, 26-28, 31, 36-40 have been amended herein. Claims 66 through 73 have been added herein. All of the pending claims 1-14 and 16-65 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

1. (Currently Twice Amended) A solid pyrotechnic composition having a total weight, the solid pyrotechnic composition comprising:
about 40 weight percent to about 90 weight percent oxidizer particles, the oxidizer particles having a mean particle size of not greater than about 30 microns and comprising at least one member selected from the group consisting of alkali metal nitrate and ammonium nitrate and at least one member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate; and
organic crystalline particles and optionally one or more salts of the organic crystalline particles, ~~the organic crystalline particles and the one or more optional salts of the organic crystalline particles~~ accounting for about 10 weight percent to about 60 weight percent of the total weight of the solid pyrotechnic composition.

2. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the oxidizer particles comprise potassium nitrate.

3. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the oxidizer particles comprise potassium perchlorate.

4. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the mean particle size of the oxidizer particles is in a range of 5 microns to 20 microns.

5. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the oxidizer particles constitute 65 weight percent to 80 weight percent of the solid pyrotechnic composition.

6. (Currently Twice Amended) The solid pyrotechnic composition according to claim 1, wherein 0.5 weight percent to 30 weight percent of the total weight of the solid pyrotechnic composition consists of the at least one ~~member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate.~~

7. (Currently Twice Amended) The solid pyrotechnic composition according to claim 1, wherein 5 weight percent to 20 weight percent of the total weight of the solid pyrotechnic composition consists of the at least one ~~member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate.~~

8. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein 5 weight percent to 20 weight percent of the total weight of the solid pyrotechnic composition consists of potassium perchlorate.

9. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the organic crystalline particles comprise at least one member selected from the group consisting of phenolphthalein and an organic crystalline compound derived from a reaction between a phenolic compound and phthalic anhydride.

10. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the organic crystalline particles comprise phenolphthalein.

11. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 10~~ claim 68, wherein 13 weight percent to 22 weight percent of the solid pyrotechnic composition consists of phenolphthalein and ~~optionally~~ a salt of phenolphthalein.

12. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 1~~ claim 68, wherein the organic crystalline particles and the one or more ~~optional~~ salts of the organic crystalline particles have a mean particle size not greater than about 30 microns.

13. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 1~~ claim 68, wherein the organic crystalline particles and the one or more ~~optional~~ salts of the organic crystalline particles have a mean particle size not greater than 15 microns.

14. (Currently Twice Amended) The solid pyrotechnic composition according to claim 1, wherein the solid pyrotechnic composition has a weight ratio of the organic crystalline particles to the one or more ~~optional~~ salts of the organic crystalline particles of at least 80:20.

15. (Currently Cancelled)

16. (Previously Amended) The solid pyrotechnic composition according to claim 1, further comprising a nonhygroscopic polymeric binder, the nonhygroscopic polymeric binder having a moisture uptake of not more than 4 weight percent at 75 percent relative humidity at a temperature of 21.1°C (70°F) over a period of 24 hours.

17. (Previously Amended) The solid pyrotechnic composition according to claim 16, wherein the nonhygroscopic polymeric binder constitutes no more than about 10 weight percent of the total weight of the solid pyrotechnic composition.

18. (Previously Amended) The solid pyrotechnic composition according to claim 16, wherein the nonhygroscopic polymeric binder constitutes 3 weight percent to 6 weight percent of the total weight of the solid pyrotechnic composition.

19. (Previously Amended) The solid pyrotechnic composition according to claim 16, wherein the nonhygroscopic polymeric binder comprises poly(vinyl acetate).

20. (Previously Amended) The solid pyrotechnic composition according to claim 16, wherein the nonhygroscopic polymeric binder comprises at least one member selected from the group consisting of ethyl cellulose and nylon.

21. (Previously Amended) The solid pyrotechnic composition according to claim 16, wherein the nonhygroscopic polymeric binder comprises at least one member selected from the group consisting of poly(vinyl acetate-co-vinyl alcohol), nylon, poly(ethylene-co-vinyl acetate), polyethylene glycol, nitrocellulose, and chain-extended BAMO.

22. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the solid pyrotechnic composition is free of sulfur and charcoal.

23. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the solid pyrotechnic composition has a moisture uptake of not greater than 0.25 weight percent at 75 percent relative humidity at a temperature of 21.1°C (70°F) over a period of 24 hours.

24. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the solid pyrotechnic composition is formulated to have, upon ignition, a theoretical flame temperature not greater than 2300K.

25. (Previously Amended) The solid pyrotechnic composition according to claim 1, wherein the solid pyrotechnic composition is formulated to have, upon ignition, a theoretical flame temperature in a range of 1750K to 2300K.

26. (Currently Twice Amended) A solid pyrotechnic composition having a total weight, the solid pyrotechnic composition comprising:
about 40 weight percent to about 90 weight percent oxidizer particles, the oxidizer particles having a mean particle size of not greater than about 30 microns and comprising at least one member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate, and optionally comprising at least one member selected from the group consisting of alkali metal nitrate and ammonium nitrate; and organic crystalline particles and optionally one or more salts of the organic crystalline particles, the organic crystalline particles and the one or more optional salts of the organic crystalline particles accounting for about 10 weight percent to about 60 weight percent of the total weight of the solid pyrotechnic composition;
wherein about 20 weight percent to about 90 weight percent of the solid pyrotechnic composition consists of the at least one member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate.

27. (Currently Twice Amended) The solid pyrotechnic composition according to claim 26, ~~wherein the oxidizer particles comprise the~~ further comprising at least one member selected from the group consisting of alkali metal nitrate and ammonium nitrate in the oxidizer particles.

28. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 26~~ claim 27, wherein the oxidizer particles comprise potassium nitrate.

29. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the oxidizer particles comprise potassium perchlorate.

30. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the mean particle size of the oxidizer particles is in a range of 5 microns to 20 microns.

31. (Currently Twice Amended) The solid pyrotechnic composition according to claim 26, wherein 30 weight percent to 90 weight percent of the total weight of the solid pyrotechnic composition consists of the at least one ~~member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate.~~

32. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein 30 weight percent to 90 weight percent of the total weight of the solid pyrotechnic composition consists of potassium perchlorate.

33. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein 65 weight percent to 80 weight percent of the total weight of the solid pyrotechnic composition consists of the oxidizer particles.

34. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the organic crystalline particles comprise at least one member selected from the group consisting of phenolphthalein and an organic crystalline compound derived from a reaction between a phenolic compound and phthalic anhydride.

35. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the organic crystalline particles comprise phenolphthalein.

36. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 35~~ claim 72, wherein 13 weight percent to 22 weight percent of the solid pyrotechnic composition consists of phenolphthalein and ~~an optional~~ one or more salt salts of phenolphthalein.

37. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 26~~ claim 72, wherein the organic crystalline particles and the one or more ~~optional~~ salts of the organic crystalline particles have a mean particle size not greater than about 30 microns.

38. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 26~~ claim 72, wherein the organic crystalline particles and the one or more ~~optional~~ salts of the organic crystalline particles have a mean particle size not greater than 15 microns.

39. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 26~~ claim 72, wherein the solid pyrotechnic composition has a weight ratio of the organic crystalline particles to the one or more ~~optional~~ salts of the organic crystalline particles of at least 80:20.

40. (Currently Twice Amended) The solid pyrotechnic composition according to ~~claim 26~~ claim 72, wherein the solid pyrotechnic composition is free of the one or more ~~optional~~ salts of the organic crystalline particles.

41. (Previously Amended) The solid pyrotechnic composition according to claim 26, further comprising a nonhygroscopic polymeric binder, the nonhygroscopic polymeric binder having a moisture uptake of not more than 4 weight percent at 75 percent relative humidity at a temperature of 21.10C (700F) over a period of 24 hours.

42. (Previously Amended) The solid pyrotechnic composition according to claim 41, wherein the nonhygroscopic polymeric binder constitutes no more than about 10 weight percent of the total weight of the solid pyrotechnic composition.

43. (Previously Amended) The solid pyrotechnic composition according to claim 41, wherein nonhygroscopic polymeric binder constitutes 3 weight percent to 6 weight percent of the total weight of the solid pyrotechnic composition.

44. (Previously Amended) The solid pyrotechnic composition according to claim 41, wherein the nonhygroscopic polymeric binder comprises poly(vinyl acetate).

45. (Previously Amended) The solid pyrotechnic composition according to claim 41, wherein the nonhygroscopic polymeric binder comprises at least one member selected from the group consisting of ethyl cellulose and nylon.

46. (Previously Amended) The solid pyrotechnic composition according to claim 41, wherein the nonhygroscopic polymeric binder comprises at least one member selected from the group consisting of poly(vinyl acetate-co-vinyl alcohol), nylon, poly(ethylene-co-vinyl acetate), polyethylene glycol, nitrocellulose, and chain-extended BAMO.

47. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the solid pyrotechnic composition is free of sulfur and charcoal.

48. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the solid pyrotechnic composition has a moisture uptake of not greater than 0.3 weight percent at 75 percent relative humidity at a temperature of 21.1°C (70°F) over a period of 24 hours.


49. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the solid pyrotechnic composition has a moisture uptake of not greater than 0.25 weight percent at 75 percent relative humidity at a temperature of 21.1°C (70°F) over a period of 24 hours.

50. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the solid pyrotechnic composition is formulated to have, upon ignition, a theoretical flame temperature greater than 2300K.

51. (Previously Amended) The solid pyrotechnic composition according to claim 26, wherein the solid pyrotechnic composition is formulated to have, upon ignition, a theoretical flame temperature in a range of 2300K to 3000K.

52. (Previously Amended) A method of making a solid pyrotechnic composition having a total weight, the method comprising:
combining an alkali metal hydroxide with at least one organic crystalline compound to produce a solution comprising a salt of the at least one organic crystalline compound;
combining the solution with nitric acid to form alkali metal nitrate particles and to convert the salt back to the at least one organic crystalline compound in particulate form, the alkali metal nitrate particles and the at least one organic crystalline compound in particulate form, each having a mean particle size of not greater than about 30 microns;
combining the alkali metal nitrate particles and the at least one organic crystalline compound in particulate form with additional oxidizer particles to form a pyrotechnic composition, the additional oxidizer particles having a mean particle size of not greater than about 30 microns and comprising at least one member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate, the additional oxidizer particles optionally also comprising at least one member selected from the group consisting of alkali metal nitrate and ammonium nitrate; and

optionally drying the pyrotechnic composition to obtain the solid pyrotechnic composition; wherein about 40 weight percent to about 90 weight percent of the total weight of the solid pyrotechnic composition consists of the alkali metal nitrate particles and the additional oxidizer particles.



53. (Previously Amended) The method according to claim 52, wherein the alkali metal nitrate particles comprise potassium nitrate.

54. (Previously Amended) The method according to claim 52, wherein the additional oxidizer particles comprise potassium perchlorate.

55. (Previously Amended) The method according to claim 52, wherein the at least one organic crystalline compound comprises phenolphthalein.

56. (Previously Amended) The method according to claim 52, wherein the solid pyrotechnic composition is free of the salt of the at least one organic crystalline compound.

57. (Previously Amended) The method according to claim 52, further comprising adding a nonhygroscopic polymeric binder, the nonhygroscopic polymeric binder having a moisture uptake of not more than 4 weight percent at 75 percent relative humidity at a temperature of 21.1°C (70°F) over a period of 24 hours.

58. (Previously Amended) The method according to claim 52, wherein the solid pyrotechnic composition is free of sulfur and charcoal.

59. (Previously Amended) A method of making a pyrotechnic composition having a total weight, the method comprising:
combining an alkali metal hydroxide with at least one organic crystalline compound to produce a solution comprising a salt of the at least one organic crystalline compound;
combining the solution with perchloric acid to form alkali metal perchlorate particles and to convert the salt back to the at least one organic crystalline compound in particulate form, the alkali metal perchlorate particles and the at least one organic crystalline compound in particulate form, each having a mean particle size of not greater than about 30 microns;
combining the alkali metal perchlorate particles and the at least one organic crystalline compound in particulate form with additional oxidizer particles to form a pyrotechnic composition, the additional oxidizer particles having a mean particle size of not greater than about 30 microns and comprising at least one of (i) at least one member selected from the group consisting of alkali metal nitrate and ammonium nitrate and (ii) at least one member selected from the group consisting of alkali metal perchlorate and ammonium perchlorate; and
optionally drying the pyrotechnic composition to obtain a solid pyrotechnic composition; wherein about 40 weight percent to about 90 weight percent of the total weight of the solid pyrotechnic composition consists of the alkali metal perchlorate particles and the additional oxidizer particles.

60. (Previously Amended) The method according to claim 59, wherein the additional oxidizer particles comprise potassium nitrate.

61. (Previously Amended) The method according to claim 59, wherein the alkali metal perchlorate particles comprise potassium perchlorate.

62. (Previously Amended) The method according to claim 59, wherein the at least one organic crystalline compound comprises phenolphthalein.

63. (Previously Amended) The method according to claim 59, wherein the solid pyrotechnic composition is free of the salt of the at least one organic crystalline compound.

64. (Previously Amended) The method according to claim 59, further comprising adding a nonhygroscopic polymeric binder, the nonhygroscopic polymeric binder having a moisture uptake of not more than 4 weight percent at 75 percent relative humidity at a temperature of 21.1°C (70°F) over a period of 24 hours.

65. (Previously Amended) The method according to claim 59, wherein the solid pyrotechnic composition is free of sulfur and charcoal.

66. (Currently Added) The solid pyrotechnic composition according to claim 1, wherein the at least one nitrate comprises an alkali metal nitrate or ammonium nitrate.

67. (Currently Added) The solid pyrotechnic composition according to claim 1, wherein the at least one perchlorate comprises an alkali metal perchlorate or ammonium perchlorate.

68. (Currently Added) The solid pyrotechnic composition according to claim 1, further comprising one or more salts of the organic crystalline particles.

69. (Currently Added) The solid pyrotechnic composition according to claim 68, wherein the organic crystalline particles and the one or more salts of the organic crystalline particles account for about 10 weight percent to about 60 weight percent of the total weight of the solid pyrotechnic composition.

70. (Currently Added) The solid pyrotechnic composition according to claim 27, wherein the at least one nitrate comprises an alkali metal nitrate or ammonium nitrate.

71. (Currently Added) The solid pyrotechnic composition according to claim 26, further comprising one or more salts of the organic crystalline particles.

72. (Currently Added) The solid pyrotechnic composition according to claim 71, wherein the organic crystalline particles and the one or more salts of the organic crystalline particles account for about 10 weight percent to about 60 weight percent of the total weight of the solid pyrotechnic composition.

73. (Currently Added) The solid pyrotechnic composition according to claim 71, wherein the at least one perchlorate comprises an alkali metal perchlorate or ammonium perchlorate.
